

# MIC Series 400 Underwater PTZ Camera

[www.boschsecurity.com](http://www.boschsecurity.com)



**BOSCH**

Invented for life



- ▶ Fully submersible up to 25 meters (82.02 ft)
- ▶ Brushless motor technology
- ▶ Host of mounting and viewing options
- ▶ Multi-protocol operation
- ▶ Available in Aluminum and Stainless Steel 316 variants

The MIC400 underwater range has been designed to offer an extremely reliable, robust and high quality surveillance solution for applications that require a fully submerged camera solution. Rated to an industry leading IP68, the MIC400 underwater range features up-rated seals that ensure reliable operation to a depth of 25 meters (82.02 ft). A choice of either aluminum or stainless steel casing offers a choice of corrosion protection and provides a best-fit solution for a variety of applications, including highly corrosive environments. High quality images are captured thanks to the units' optically perfectly-flat viewing window. Brushless motor technology ensures ultra-reliable, whisper quiet operation while groundbreaking resolver technology provides pin-point accuracy and affords the user full 360° continuous rotation pan and an unprecedented 320° tilt control. A choice of true day/night camera modules, offering up to 36x optical zoom (12x digital), coupled with flexible upright or inverted mounting capability, allows the perfect field of view to be achieved every time.

## Functions

### Fully submersible

Suitable for constant submersion, the MIC400 underwater range features up-rated, pressure resistant seals for reliable operation to a depth of 25 meters (82.02 ft).

### Brushless motor technology

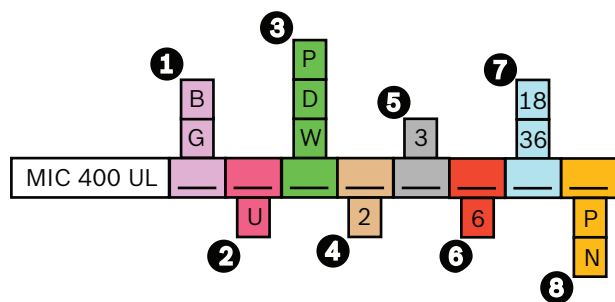
Whisper quiet operation and smooth control is provided through the use of ultra-reliable brushless motors

### Host of mounting and viewing options

Faultless operation either upright or inverted gives the user a host of mounting and viewing possibilities

### Multi-protocol operation

Compatible with virtually any control equipment available today, the MIC400 underwater range is able to seamlessly integrate with the vast majority of security systems

**Installation/configuration notes****MIC400 Underwater Aluminium****Ordering Guide for MIC40 Underwater Aluminum****1 Colors**

B Black G Grey

**2 Configuration**

U Upright

**3 Protocol**

P Bosch W Forward Vision  
D Pelco P/D

**4 Wiper**

2 No wiper

**5 Heater**

3 Heater fitted

**6 Privacy**

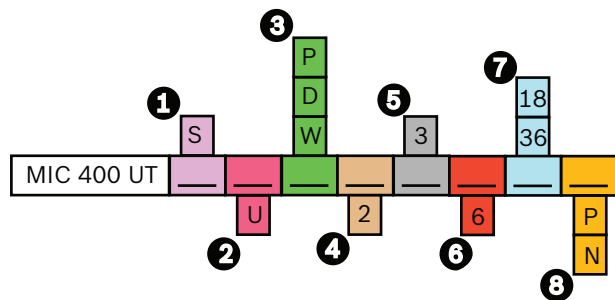
6 No privacy

**7 Camera Zoom Ratio**

1 18:1 3 36:1  
8

**8 Video Standard**

P PAL N NTSC

**MIC400 Underwater Stainless Steel****Ordering Guide for MIC400 Underwater Stainless Steel****1 Colors**

S Stainless steel

**2 Configuration**

U Upright

**3 Protocol**

P Bosch W Forward Vision  
D Pelco P/D

**4 Wiper**

1 No wiper

**5 Heater**

4 Heater fitted

**6 Privacy**

6 No privacy

**7 Camera Zoom Ratio**

1 18:1 3 36:1  
8

**8 Video Standard**

P PAL N NTSC

**Technical specifications****Camera Module**

Image sensor	1/4-inch EXview CCD
Picture elements	380 K NTSC / 440 K PAL (WIDE)
Horizontal resolution	470 TVL NTSC / 460 TVL PAL (WIDE)
Filter	Automatic mechanical IR cut filter
Focus system	Auto or manual
Iris	Auto or manual with slow shutter integration modes
Synchronization	Internal / External (V-Lock)
Recommended illumination	100 to 100,000 lx
Signal/Noise ratio	50 dB or more
Back Light Compensation (BLC)	On/Off
White balance	Automatic
Automatic Gain Control (AGC)	-3 to -28 dB, 2 dB steps
Aperture control	16 Steps

**18x optical zoom module**

Lens	F=4.1 mm (WIDE) to 73.8 mm (TELE), F1.4 to F3.0
Zoom	18x optical (12x digital)
Angle of view	48° (WIDE end) to 2.8° (TELE end)
Minimum illumination	0.7 lux (F1.4, 1/60s NTSC, 1/50s PAL), 0.11 lux (F1.4, 1/4s NTSC, 1/3s PAL), 0.01 lux or less (F1.4, 1/4s NTSC, 1/3s PAL, ICR ON)
Shutter speed	1/1 to 1/10,000s (22 steps) NTSC, PAL

**36x optical zoom module**

Lens	F=3.4 mm (WIDE) to 122.4 mm (TELE), F1.6 to F4.5
Zoom	36x optical (12x digital)
Angle of view	57.8° (WIDE end) to 1.7° (TELE end)
Minimum illumination	1.4 lux (1/60s NTSC, 1/50s PAL), 0.1 lux (1/4s NTSC, 1/3s PAL), 0.01 lux or less (1/4s NTSC, 1/3s PAL, ICR ON)
Shutter speed	1/4 to 1/10,000s (20 steps) NTSC, 1/3 to 1/10,000s (20 steps) PAL

**Operational\***

Auto flip	Yes
Manual flip	Yes
Presets	64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.)
Preset tours	6 tours each with up to 32 presets
Sector titles	Yes (64 sectors) 20 characters per title
Preset titles	20 character caption for each of the 64 presets
Home position	Yes (preset 1 or tour)

**Communication and Protocols**

Communication	RS485 / RS422
Control protocol	Bosch, Pelco P/D or FV protocol cameras available. Other protocols supported. Please consult separate protocol list for available options. Bosch camera requires Biphasic to RS485 converter (MIC-BP4) to be installed in the power supply (available separately)

**Connectivity**

Video	Co-axial via composite cable
Telemetry	Twisted pair. Simplex, half and full duplex operation via composite cable
Power	Via composite cable

**Alarms**

Alarm inputs	1 tamper input (additional inputs possible with optional alarm card in PSU)
Alarm communication	Tamper switch (ground connection)

**Mechanical**

Drive unit	Integral pan/tilt motor drive
Pan angle	360° continuous rotation
Pan speed	Up to 90° per second (variable)
Tilt angle	320°
Tilt speed	0.2° to 90° per second (variable)
Speed control	Closed loop electronics
Preset accuracy	Better than 0.08°
Proportional P/T to zoom	Yes

**Physical**

Construction material	Aluminum: 6 mm thick aluminum Stainless steel: grade 316 stainless steel
Viewing window	Tempered flat glass
Standard colors	Aluminum: Black (RAL9005) or Grey (RAL7001). Stainless steel: stainless steel.
Standard finish	Aluminum: powder coated Stainless steel: stainless steel
Dimensions (W x H x D)	205 x 360 x 165 mm (8.07 x 14.17 x 6.50 in.) (upright and inverted)
Weight	Aluminum: 5.5 kg (12.13 lb) (including 4-in. PCD base) Stainless steel: 16.5 kg (36.38 lb) (including 4-in. PCD base)

**Environmental**

Operational temperature	-30°C to +50°C (-22°F to +122°F)
Weatherproofing	NEMA 4x / IP68

**Electrical**

Input voltage	15 VAC / 18 VDC
Power consumption	25.2 W max.

**Available Options**

Configurations available	Upright mount or upright canted at 45° mount. (Inverted mount configurable through software. Please order the upright model)
Camera module	18x camera module or 36x camera module
Camera color system	NTSC or PAL

Telemetry control card	Built-in
Alarm card	Optional, fitted in PSU
Casing	Choice of aluminum or stainless steel
Pressure resistant conduit glands	Supplied separately

\*functions available when used with the Forward Vision protocol, other protocols may vary.

### Ordering information

#### **MIC400UTSUW23618P MIC400 Underwater**

MIC 18x Optical zoom, under water, natural finish, upright, FV Protocol, heater fitted, PAL  
Order number **MIC400UTSUW23618P**

#### **MIC400UTSUW23636P MIC400 Underwater**

MIC 36x Optical zoom, stainless steel, under water, 25 meters, natural finish, upright, FV Protocol, heater fitted, PAL  
Order number **MIC400UTSUW23636P**

#### **MIC400UTSUD23618P MIC400 Underwater**

MIC 18x Optical zoom, stainless steel, under water, 25 meters, natural finish, upright, Pelco Protocol, heater fitted, PAL  
Order number **MIC400UTSUD23618P**

#### **MIC400UTSUD23636P MIC400 Underwater**

MIC 36x Optical zoom, stainless steel, under water, 25 meters, natural finish, upright, Pelco Protocol, heater fitted, PAL  
Order number **MIC400UTSUD23636P**

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#### **MIC400UTSUP23636P MIC400 Underwater**

MIC 36x Optical zoom, stainless steel, under water, 25 meters, natural finish, upright, Bosch Protocol, heater fitted, PAL  
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#### **MIC400UTSUD23618N MIC400 Underwater**

MIC 18x Optical zoom, stainless steel, under water, 25 meters, natural finish, upright, FV Protocol, heater fitted, NTSC  
Order number **MIC400UTSUD23618N**

#### **MIC400UTSUD23636N MIC400 Underwater**

MIC 36x Optical zoom, stainless steel, under water, 25 meters, natural finish, upright, Pelco Protocol, heater fitted, NTSC  
Order number **MIC400UTSUD23636N**

#### **MIC400ULSUP23618N MIC400 Underwater**

MIC 18x Optical zoom, stainless steel, under water, 25 meters, natural finish, upright, Bosch Protocol, heater fitted, NTSC  
Order number **MIC400ULSUP23618N**

#### **MIC400UTSUP23636N MIC400 Underwater**

MIC 36x Optical zoom, stainless steel, under water, 25 meters, natural finish, upright, Bosch Protocol, heater fitted, NTSC  
Order number **MIC400UTSUP23636N**

#### **MIC400ULBUD23618P MIC400 Underwater**

MIC 18x Optical zoom, aluminum, under water, 25 meters, black, upright, Pelco Protocol, heater fitted, PAL  
Order number **MIC400ULBUD23618P**

#### **MIC400ULBUD23636P MIC400 Underwater**

MIC 36x Optical zoom, aluminum, under water, 25 meters, black, upright, Pelco Protocol, heater fitted, PAL  
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MIC 36x Optical zoom, aluminum, under water, 25 meters, black, upright, FV Protocol, heater fitted, PAL  
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#### **MIC400ULGUD23618P MIC400 Underwater**

MIC 18x Optical zoom, aluminum, under water, 25 meters, grey, upright, Pelco Protocol, heater fitted, PAL  
Order number **MIC400ULGUD23618P**

#### **MIC400ULGUD23636P MIC400 Underwater**

MIC 36x Optical zoom, aluminum, under water, 25 meters, grey, upright, Pelco Protocol, heater fitted, PAL  
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MIC 36x Optical zoom, aluminum, under water, 25 meters, grey, upright, FV Protocol, heater fitted, PAL  
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**MIC400ULGUP23618P MIC400 Underwater**

MIC 18x Optical zoom, aluminum, under water, 25 meters, grey, upright, Bosch Protocol, heater fitted, PAL  
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MIC 36x Optical zoom, aluminum, under water, 25 meters, grey, upright, Pelco Protocol, heater fitted, NTSC  
Order number **MIC400ULGUD23636N**

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